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Titel des Beitrags: Steady-state generation of mucosal IgA+ plasmablasts is not abrogated by B-cell depletion therapy with rituximab.

Abstract: The anti-CD20 antibody rituximab depletes human B cells from peripheral blood, but it remains controversial to what extent tissue-resident B cells are affected. In representative patients with rheumatoid arthritis, we here demonstrate that recently activated presumably short-lived plasmablasts expressing HLA-DR(high) and Ki-67 continuously circulate in peripheral blood after B-cell depletion by rituximab at 26%-119% of their initial numbers. They circulate independent of splenectomy, express immunoglobulin A (IgA), ?? integrin, and C-C motif receptor 10 (CCR10) and migrate along CCL28 gradients in vitro, suggesting their mucosal origin. These plasmablasts express somatically hypermutated V(H) gene rearrangements and spontaneously secrete IgA, exhibiting binding to microbial antigens. Notably, IgA(+) plasmablasts and plasma cells were identified in the lamina propria of patients treated with rituximab during peripheral B-cell depletion. Although a relation of these "steady state"-like plasmablasts with rheumatoid arthritis activity could not be found, their persistence during B-cell depletion indicates that their precursors, that is, B cells resident in the mucosa are not deleted by this treatment. These data suggest that a population of mucosal B cells is self-sufficient in adult humans and not replenished by CD20(+) B cells immigrating from
blood, lymphoid tissue, or bone marrow, that is, B cells depleted by rituximab.